an audio output unit which converts digital audio waveform signals to analog audio waveform signals for audible output by the speaker; and

a computer station controller configured to execute application programs of said computer station, said computer station controller coupled to said audio responsive input unit, to said audio output unit, and to said computer station network interface, said computer station controller configured to accept the digitized audio signals from said audio responsive input unit and to provide the signals in audio data packets for transmission via said computer station network interface over the computer network, said computer station controller further configured to accept audio data packets from said network via said computer station network interface and to transfer said audio data packets to said audio output unit, said computer station controller also managing the operations of the audio communication system while other application programs are actively executing in the computer station controller.

8.   A network computer station on a computer network, said computer station comprising:

a computer station controller;

an audio output unit;

an audio input unit; and

an audio communication system, said audio communication system comprising:

a user interface having a plurality of user selections;

a computer station audio communication state data structure which contains a value indicative of one of a plurality of operative states of the audio communication system;

a main control block <u>operating in said computer station controller</u> which controls the overall operation of the two-way audio communication system, said main control <u>block</u> [task] responsive to said user selections, said main control block further monitoring the state contained in the computer station audio communication state data structure, said main control block configured to operate while other systems are actively executing on said network computer station;

a first network communication block which accepts audio data from said audio input hardware and indicates to the network that data is available for transmission; and

a second network communication control block which accepts audio data transferred over the network and provides the data to the audio output hardware of the user station.

15. A method of carrying out audio communication between users of at least two computer stations in a computer network, <u>said at least two computer stations having respective computer</u>

station controllers coupled to respective computer station network interfaces, said method comprising the steps of:

establishing a connection between the at least two computer stations on the network with a first of said at least two computer stations;

receiving audio waveform input data at the first computer station via the first computer station network interface;

digitizing said audio waveform data to obtain digital audio waveform data;

generating a first random arbitration data value;

in the first computer station controller, combining said digital audio waveform data with a communication state of the first station and with the random arbitration data value generated by said first station to form a digital audio data packet;

transmitting the digital audio data packet over the network via the first computer station network interface to a second of said at least two computers on the network;

receiving the audio data packet at said second computer station via the second computer station network interface;

converting the digital audio data from the packet to analog form to obtain analog audio waveform data; and

transferring the analog audio waveform data to a speaker to generate audible signals.

17. A computer station, said computer station comprising:

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a computer station controller coupled to a computer station network interface;

a microphone;

a speaker; and

an audio communication system, said audio communication system comprising:

an audio responsive input unit which accepts analog audio waveform signals from the microphone and digitizes the audio waveform signals;

an audio output unit which converts digital audio waveform signals to analog audio waveform signals for audible output by the speaker;

a data storage system; and

a computer station controller in communication with said audio responsive input unit, with said audio output unit, and with said data storage system, said computer station controller configured to accept the digitized audio signals from said audio responsive input unit and to store the digitized audio signals in the data storage system, said computer station controller also managing the operations of the audio communication system while other application programs are actively executing on the computer station.